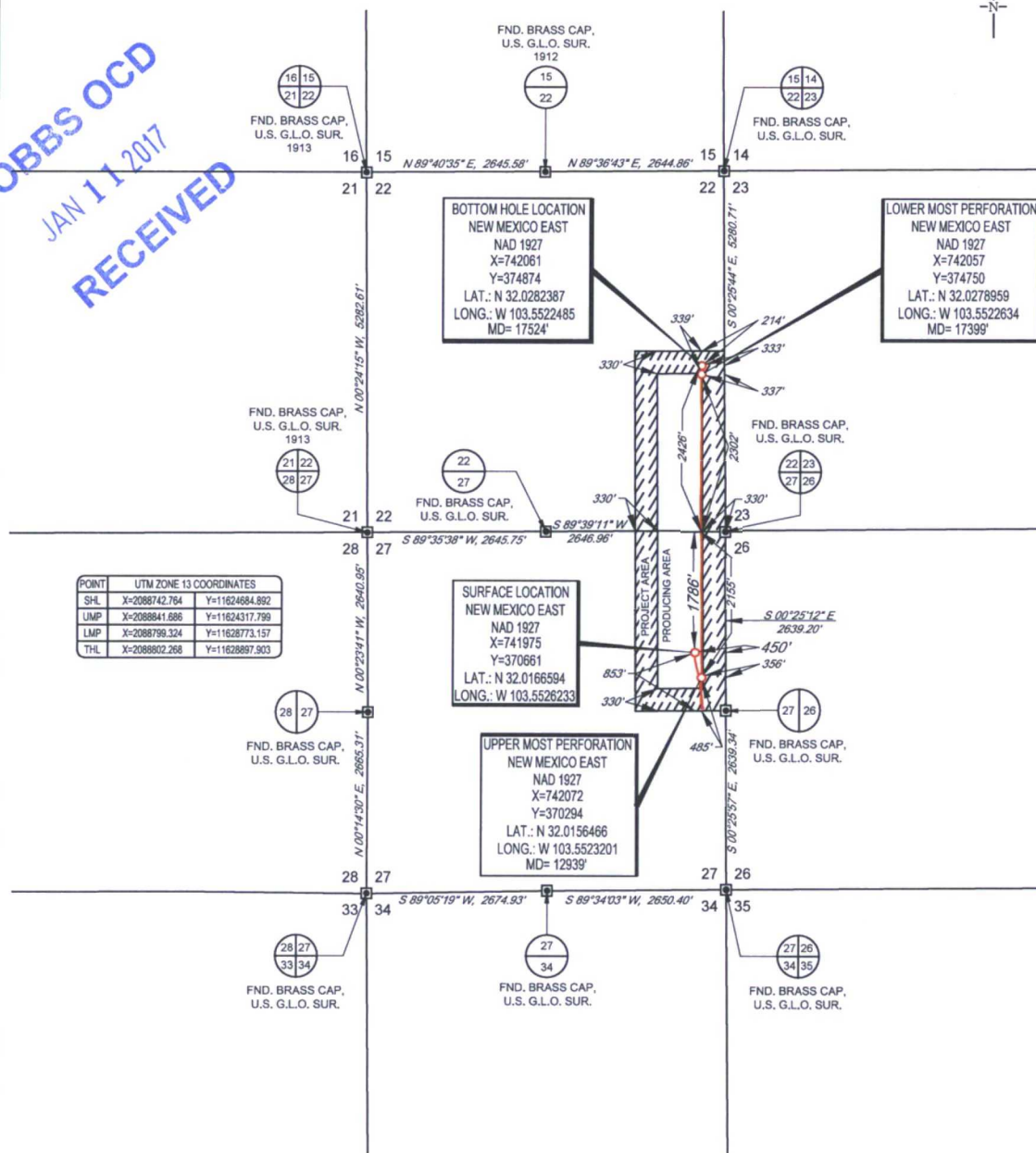


SCALE: 1" = 2000'
0' 1000' 2000'

SECTION 27, TOWNSHIP 26-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

HOBBS OCD
JAN 11 2017
RECEIVED



LEASE NAME & WELL NO.: OPHELIA 27 #709H
SECTION 27 TWP 26-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM ELEVATION 3294'
DESCRIPTION 1786' FNL & 450' FEL



Michael Blake Brown, P.S. No. 18329
DECEMBER 9, 2016

Topographic
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX: (817) 744-7548
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX: (432) 682-1743
WWW.TOPOGRAPHIC.COM

OPHELIA 27 #709H
AS-COMPLETED
DATE: 12/09/16
FILE: AD_OPHELIA27_709H
DRAWN BY: A.C.C.
SHEET: 1 OF 1

REVISION:	
INT	DATE

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11.4"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 19 27.
3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.



HOBBS OCD
JAN 11 2017
RECEIVED

EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Ophelia 27

#709H

ST#1

Design: ST#1

PVA

26 October, 2016



EOG Resources, Inc.
PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25' @ 3319.0usft (H&P 651)
Site:	Ophelia 27	MD Reference:	KB = 25' @ 3319.0usft (H&P 651)
Well:	#709H	North Reference:	Grid
Wellbore:	ST#1	Survey Calculation Method:	Minimum Curvature
Design:	ST#1	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM (NAD 27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Ophelia 27		
Site Position:		Northing:	370,025.00 usft
From:	Map	Easting:	741,483.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 0' 53.711 N
		Longitude:	103° 33' 15.217 W
		Grid Convergence:	0.41 °

Well		#709H				
Well Position	+N/-S	0.0 usft	Northing:	370,661.00 usft	Latitude:	32° 0' 59.970 N
	+E/-W	0.0 usft	Easting:	741,975.00 usft	Longitude:	103° 33' 9.450 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,294.0 usft	

Wellbore	ST#1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/28/2016	7.01	59.88	47,891

Design	ST#1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 7,459.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	1.21



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Ophelia 27
 Well: #709H
 Wellbore: ST#1
 Design: ST#1

Local Co-ordinate Reference: Well #709H
 TVD Reference: KB = 25' @ 3319.0usft (H&P 651)
 MD Reference: KB = 25' @ 3319.0usft (H&P 651)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Survey Program		Date	10/26/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
137.0	7,459.0	MWD (OH)	MWD	MWD - Standard	
7,529.0	17,525.0	Cresent MWD #2 (ST#1)	MWD	MWD - Standard	

Survey											
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0	0.0
137.0	0.44	15.90	137.0	0.5	0.1	0.32	0.32	0.00	0.0	0.0	0.0
311.0	0.70	268.33	311.0	1.1	-0.7	0.54	0.15	-61.82	0.0	0.0	0.0
433.0	0.44	304.27	433.0	1.4	-1.9	0.35	-0.21	29.46	0.0	0.0	0.0
617.0	0.53	304.89	617.0	2.2	-3.1	0.05	0.05	0.34	0.0	0.0	0.0
802.0	0.44	288.01	802.0	3.0	-4.5	0.09	-0.05	-9.12	0.0	0.0	0.0
986.0	0.35	97.29	986.0	3.1	-4.6	0.43	-0.05	92.00	0.0	0.0	0.0
1,136.0	0.70	135.17	1,136.0	2.4	-3.5	0.32	0.23	25.25	0.0	0.0	0.0
1,320.0	3.25	170.68	1,319.8	-3.6	-1.9	1.47	1.39	19.30	0.0	0.0	0.0
1,512.0	4.48	177.89	1,511.4	-16.4	-0.7	0.69	0.64	3.76	0.0	0.0	0.0
1,704.0	6.07	176.74	1,702.6	-34.0	0.1	0.83	0.83	-0.60	0.0	0.0	0.0
1,896.0	6.68	188.17	1,893.4	-55.2	-0.9	0.73	0.32	5.95	0.0	0.0	0.0
2,088.0	7.56	175.69	2,083.9	-78.9	-1.5	0.92	0.46	-6.50	0.0	0.0	0.0
2,280.0	8.44	168.31	2,274.1	-105.3	2.3	0.70	0.46	-3.84	0.0	0.0	0.0
2,472.0	9.15	167.69	2,463.8	-134.0	8.4	0.37	0.37	-0.32	0.0	0.0	0.0
2,663.0	8.62	165.85	2,652.5	-162.7	15.1	0.31	-0.28	-0.96	0.0	0.0	0.0
2,855.0	9.23	164.70	2,842.2	-191.5	22.7	0.33	0.32	-0.60	0.0	0.0	0.0
3,046.0	9.94	170.50	3,030.5	-222.6	29.5	0.63	0.37	3.04	0.0	0.0	0.0
3,238.0	8.71	167.43	3,220.0	-253.1	35.4	0.69	-0.64	-1.60	0.0	0.0	0.0
3,429.0	8.97	168.57	3,408.7	-281.8	41.5	0.16	0.14	0.60	0.0	0.0	0.0
3,621.0	8.44	161.28	3,598.5	-309.8	48.9	0.64	-0.28	-3.80	0.0	0.0	0.0



EOG Resources, Inc.

PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25' @ 3319.0usft (H&P 651)
Site:	Ophelia 27	MD Reference:	KB = 25' @ 3319.0usft (H&P 651)
Well:	#709H	North Reference:	Grid
Wellbore:	ST#1	Survey Calculation Method:	Minimum Curvature
Design:	ST#1	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
3,812.0	9.76	153.63	3,787.1	-337.6	60.6	0.94	0.69	-4.01	0.0	0.0	
4,004.0	9.15	160.57	3,976.5	-366.6	72.9	0.67	-0.32	3.61	0.0	0.0	
4,196.0	9.32	186.85	4,166.1	-396.4	76.2	2.18	0.09	13.69	0.0	0.0	
4,387.0	9.32	183.86	4,354.6	-427.2	73.3	0.25	0.00	-1.57	0.0	0.0	
4,579.0	8.62	179.21	4,544.2	-457.1	72.4	0.52	-0.36	-2.42	0.0	0.0	
4,771.0	9.94	172.26	4,733.7	-487.9	74.9	0.90	0.69	-3.62	0.0	0.0	
4,963.0	9.15	169.27	4,923.1	-519.3	79.9	0.49	-0.41	-1.56	0.0	0.0	
5,155.0	9.15	170.06	5,112.6	-549.4	85.4	0.07	0.00	0.41	0.0	0.0	
5,347.0	8.71	168.83	5,302.3	-578.7	90.9	0.25	-0.23	-0.64	0.0	0.0	
5,539.0	9.32	172.00	5,491.9	-608.3	95.8	0.41	0.32	1.65	0.0	0.0	
5,731.0	8.27	171.03	5,681.7	-637.4	100.2	0.55	-0.55	-0.51	0.0	0.0	
5,924.0	8.35	170.15	5,872.6	-664.9	104.7	0.08	0.04	-0.46	0.0	0.0	
6,116.0	7.03	167.34	6,062.9	-690.1	109.7	0.71	-0.69	-1.46	0.0	0.0	
6,308.0	7.03	177.45	6,253.5	-713.3	112.8	0.64	0.00	5.27	0.0	0.0	
6,500.0	6.33	175.69	6,444.2	-735.6	114.1	0.38	-0.36	-0.92	0.0	0.0	
6,692.0	5.54	175.51	6,635.1	-755.4	115.6	0.41	-0.41	-0.09	0.0	0.0	
6,885.0	4.75	173.67	6,827.4	-772.6	117.2	0.42	-0.41	-0.95	0.0	0.0	
7,077.0	2.64	160.13	7,019.0	-784.7	119.6	1.18	-1.10	-7.05	0.0	0.0	
7,268.0	2.99	166.99	7,209.7	-793.7	122.2	0.25	0.18	3.59	0.0	0.0	
7,459.0	0.62	174.11	7,400.6	-799.5	123.5	1.24	-1.24	3.73	0.0	0.0	
7,529.0	4.22	275.88	7,470.6	-799.6	120.9	6.27	5.14	145.39	0.0	0.0	
7,651.0	4.48	268.15	7,592.2	-799.3	111.7	0.53	0.21	-6.34	0.0	0.0	
7,843.0	2.46	273.34	7,783.8	-799.3	100.1	1.06	-1.05	2.70	0.0	0.0	
8,035.0	0.79	105.29	7,975.8	-799.5	97.3	1.69	-0.87	-87.53	0.0	0.0	
8,227.0	1.14	126.82	8,167.8	-800.9	100.1	0.26	0.18	11.21	0.0	0.0	
8,418.0	1.06	137.46	8,356.7	-803.4	102.8	0.11	-0.04	5.57	0.0	0.0	
8,610.0	1.41	147.92	8,550.7	-806.7	105.2	0.22	0.18	5.45	0.0	0.0	



EOG Resources, Inc.
PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Ophelia 27
Well: #709H
Wellbore: ST#1
Design: ST#1

Local Co-ordinate Reference: Well #709H
TVD Reference: KB = 25' @ 3319.0usft (H&P 651)
MD Reference: KB = 25' @ 3319.0usft (H&P 651)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
8,802.0	1.23	130.34	8,742.6	-810.0	108.1	0.23	-0.09	-9.16	0.0	0.0
8,994.0	1.14	131.74	8,934.6	-812.6	111.1	0.05	-0.05	0.73	0.0	0.0
9,186.0	1.06	119.88	9,126.6	-814.8	114.0	0.13	-0.04	-6.18	0.0	0.0
9,377.0	0.70	127.09	9,317.5	-816.4	116.5	0.20	-0.19	3.77	0.0	0.0
9,569.0	0.44	67.14	9,509.5	-816.8	118.1	0.32	-0.14	-31.22	0.0	0.0
9,761.0	0.97	52.29	9,701.5	-815.5	120.1	0.29	0.28	-7.73	0.0	0.0
9,952.0	0.70	113.46	9,892.5	-815.0	122.4	0.46	-0.14	32.03	0.0	0.0
10,145.0	0.26	93.07	10,085.5	-815.5	123.9	0.24	-0.23	-10.56	0.0	0.0
10,336.0	0.26	182.54	10,276.5	-815.9	124.3	0.19	0.00	46.84	0.0	0.0
10,528.0	0.97	243.63	10,468.5	-817.1	122.9	0.46	0.37	31.82	0.0	0.0
10,720.0	1.06	266.30	10,660.5	-817.9	119.6	0.21	0.05	11.81	0.0	0.0
10,912.0	1.06	263.58	10,852.4	-818.3	116.1	0.03	0.00	-1.42	0.0	0.0
11,104.0	1.67	264.81	11,044.4	-818.7	111.5	0.32	0.32	0.64	0.0	0.0
11,282.0	1.93	262.79	11,222.3	-819.3	106.0	0.15	0.15	-1.13	0.0	0.0
11,426.0	2.46	297.24	11,366.2	-818.2	100.8	0.97	0.37	23.92	0.0	0.0
11,618.0	2.64	33.66	11,558.1	-812.6	99.6	1.98	0.09	50.22	0.0	0.0
11,811.0	1.93	40.60	11,750.9	-806.5	104.2	0.39	-0.37	3.60	0.0	0.0
12,003.0	1.23	27.33	11,942.8	-802.2	107.3	0.41	-0.36	-6.91	0.0	0.0
12,178.0	1.06	18.19	12,117.8	-799.0	108.6	0.14	-0.10	-5.22	0.0	0.0
12,291.0	9.15	341.28	12,230.3	-789.5	106.1	7.37	7.16	-32.66	0.0	0.0
12,339.0	16.71	346.02	12,277.0	-779.1	103.2	15.89	15.75	9.87	0.0	0.0
12,387.0	22.34	349.54	12,322.2	-763.4	99.8	11.98	11.73	7.33	0.0	0.0
12,435.0	26.03	351.82	12,366.0	-744.0	96.7	7.93	7.69	4.75	0.0	0.0
12,483.0	31.57	354.55	12,408.1	-721.1	94.0	11.86	11.54	5.69	0.0	0.0
12,531.0	35.53	358.06	12,448.1	-694.6	92.3	9.18	8.25	7.31	0.0	0.0
12,579.0	38.95	3.86	12,486.3	-665.6	92.9	10.20	7.12	12.08	0.0	0.0
12,627.0	43.26	4.21	12,522.4	-634.2	95.1	8.99	8.98	0.73	0.0	0.0



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Ophelia 27
 Well: #709H
 Wellbore: ST#1
 Design: ST#1

Local Co-ordinate Reference: Well #709H
 TVD Reference: KB = 25' @ 3319.0usft (H&P 651)
 MD Reference: KB = 25' @ 3319.0usft (H&P 651)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
12,675.0	48.19	1.58	12,555.9	-599.8	96.8	10.99	10.27	-5.48	0.0	0.0
12,723.0	51.79	0.35	12,586.8	-563.1	97.4	7.75	7.50	-2.56	0.0	0.0
12,771.0	58.21	359.64	12,614.3	-523.8	97.4	13.43	13.37	-1.48	0.0	0.0
12,773.1	58.45	359.64	12,615.4	-522.0	97.4	11.60	11.60	-0.18	0.0	0.0
HL Crossing 12773.1' MD; 12615.4' TVD; -522.0'; 97.4'; 58.45										
12,818.0	63.66	359.56	12,637.1	-482.7	97.1	11.60	11.60	-0.17	0.0	0.0
12,866.0	69.91	359.38	12,656.1	-438.6	96.7	13.03	13.02	-0.37	0.0	0.0
12,914.0	76.33	0.08	12,670.0	-392.7	96.5	13.45	13.37	1.46	0.0	0.0
12,962.0	78.26	0.70	12,680.5	-345.9	96.8	4.21	4.02	1.29	0.0	0.0
13,010.0	82.39	1.14	12,688.6	-298.6	97.6	8.65	8.60	0.92	0.0	0.0
13,054.0	85.21	359.91	12,693.4	-254.9	98.0	6.99	6.41	-2.80	0.0	0.0
13,096.0	87.32	359.21	12,696.1	-213.0	97.6	5.29	5.02	-1.67	0.0	0.0
13,192.0	89.69	358.06	12,698.6	-117.0	95.4	2.74	2.47	-1.20	0.0	0.0
13,288.0	92.86	1.58	12,696.5	-21.1	95.0	4.93	3.30	3.67	0.0	0.0
13,384.0	91.10	0.00	12,693.1	74.8	96.4	2.46	-1.83	-1.65	0.0	0.0
13,480.0	93.03	359.21	12,689.7	170.8	95.7	2.17	2.01	-0.82	0.0	0.0
13,576.0	89.60	0.00	12,687.5	266.7	95.0	3.67	-3.57	0.82	0.0	0.0
13,672.0	87.67	0.88	12,689.8	362.7	95.8	2.21	-2.01	0.92	0.0	0.0
13,768.0	87.67	0.26	12,693.7	458.6	96.7	0.65	0.00	-0.65	0.0	0.0
13,864.0	88.81	0.52	12,696.6	554.6	97.4	1.22	1.19	0.27	0.0	0.0
13,960.0	90.66	1.23	12,697.1	650.5	98.9	2.06	1.93	0.74	0.0	0.0
14,055.0	89.34	358.41	12,697.1	745.5	98.6	3.28	-1.39	-2.97	0.0	0.0
14,151.0	91.63	358.06	12,696.3	841.5	95.6	2.41	2.39	-0.36	0.0	0.0
14,247.0	93.65	357.62	12,691.8	937.3	92.0	2.15	2.10	-0.46	0.0	0.0
14,343.0	92.42	1.23	12,686.7	1,033.1	91.0	3.97	-1.28	3.76	0.0	0.0
14,439.0	90.13	1.58	12,684.6	1,129.1	93.4	2.41	-2.39	0.36	0.0	0.0
14,535.0	87.85	0.70	12,686.3	1,225.0	95.3	2.55	-2.37	-0.92	0.6	-0.1



EOG Resources, Inc.

PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25' @ 3319.0usft (H&P 651)
Site:	Ophelia 27	MD Reference:	KB = 25' @ 3319.0usft (H&P 651)
Well:	#709H	North Reference:	Grid
Wellbore:	ST#1	Survey Calculation Method:	Minimum Curvature
Design:	ST#1	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
14,631.0	89.08	1.31	12,688.9	1,321.0	97.0	1.43	1.28	0.64	3.0	-1.8	
14,727.0	88.90	358.85	12,690.6	1,417.0	97.1	2.57	-0.19	-2.56	4.6	-2.2	
14,822.0	94.44	359.47	12,687.8	1,511.9	95.7	5.87	5.83	0.65	1.8	-1.0	
14,917.0	90.22	359.12	12,683.9	1,606.8	94.5	4.46	-4.44	-0.37	-2.1	0.0	
15,014.0	89.16	357.97	12,684.5	1,703.7	92.1	1.61	-1.09	-1.19	-1.7	2.2	
15,110.0	90.84	358.06	12,684.5	1,799.7	88.8	1.75	1.75	0.09	-1.8	5.4	
15,206.0	91.10	358.68	12,682.8	1,895.6	86.0	0.70	0.27	0.65	-3.5	7.9	
15,302.0	87.85	357.80	12,683.7	1,991.6	83.1	3.51	-3.39	-0.92	-2.7	10.6	
15,398.0	90.13	359.38	12,685.4	2,087.5	80.7	2.89	2.37	1.65	-1.0	12.8	
15,495.0	90.66	358.59	12,684.7	2,184.5	79.0	0.98	0.55	-0.81	-1.8	14.3	
15,591.0	92.77	359.91	12,681.9	2,280.4	77.7	2.59	2.20	1.37	-4.7	15.4	
15,687.0	88.37	3.78	12,680.9	2,376.3	80.8	6.10	-4.58	4.03	-5.7	12.1	
15,783.0	88.81	0.61	12,683.3	2,472.2	84.5	3.33	0.46	-3.30	-3.4	8.2	
15,879.0	91.89	359.47	12,682.7	2,568.2	84.6	3.42	3.21	-1.19	-4.1	7.9	
15,975.0	90.66	358.33	12,680.6	2,664.2	82.7	1.75	-1.28	-1.19	-6.3	9.5	
16,072.0	93.12	0.79	12,677.4	2,761.1	82.0	3.59	2.54	2.54	-9.6	10.1	
16,168.0	89.25	0.88	12,675.4	2,857.0	83.4	4.03	-4.03	0.09	-11.6	8.5	
16,264.0	88.37	359.38	12,677.4	2,953.0	83.6	1.81	-0.92	-1.56	-9.7	8.1	
16,360.0	90.75	0.35	12,678.1	3,049.0	83.4	2.68	2.48	1.01	-9.1	8.1	
16,456.0	90.92	0.61	12,676.7	3,145.0	84.2	0.32	0.18	0.27	-10.5	7.1	
16,551.0	90.66	0.35	12,675.4	3,240.0	85.0	0.39	-0.27	-0.27	-11.9	6.1	
16,647.0	89.43	0.26	12,675.3	3,336.0	85.5	1.28	-1.28	-0.09	-12.0	5.4	
16,743.0	89.08	0.00	12,676.6	3,432.0	85.7	0.45	-0.36	-0.27	-10.9	4.9	
16,840.0	88.37	358.77	12,678.7	3,528.9	84.7	1.46	-0.73	-1.27	-8.8	5.8	
16,935.0	91.71	358.50	12,678.7	3,623.9	82.4	3.53	3.52	-0.28	-8.9	7.8	
17,031.0	92.07	359.56	12,675.5	3,719.8	80.8	1.17	0.37	1.10	-12.2	9.2	
17,127.0	91.98	358.50	12,672.1	3,815.8	79.2	1.11	-0.09	-1.10	-15.6	10.7	



EOG Resources, Inc.

PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #709H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25' @ 3319.0usft (H&P 651)
Site:	Ophelia 27	MD Reference:	KB = 25' @ 3319.0usft (H&P 651)
Well:	#709H	North Reference:	Grid
Wellbore:	ST#1	Survey Calculation Method:	Minimum Curvature
Design:	ST#1	Database:	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
17,223.0	93.12	359.91	12,667.8	3,911.6	77.8	1.89	1.19	1.47	-20.0	11.8
17,319.0	94.09	2.19	12,661.8	4,007.4	79.6	2.58	1.01	2.37	-26.1	9.8
Last MWD Survey										
17,409.2	92.94	1.77	12,656.3	4,097.4	82.7	1.36	-1.28	-0.47	-31.7	6.5
HL Crossing, MD:17409.2', TVD:12656.3', N/S:4097.4', E/W:82.7', INC:92.94										
17,525.0	91.46	1.23	12,651.8	4,213.1	85.7	1.36	-1.28	-0.47	-39.1	3.9
Projection to Bit										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,773.1	12,615.4	-522.0	97.4	HL Crossing 12773.1' MD; 12615.4' TVD; -522.0'; 97.4'; 58.45
17,319.0	12,661.8	4,007.4	79.6	Last MWD Survey
17,409.2	12,656.3	4,097.4	82.7	HL Crossing, MD:17409.2', TVD:12656.3', N/S:4097.4', E/W:82.7', INC:92.94
17,525.0	12,651.8	4,213.1	85.7	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____